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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/578,998

05/25/2000

Kaori Inoue

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02/05/2004

STRADLING YOCCO CARLSON & RAUTH
SUITE 1600
660 NEWPORT CENTER DRIVE
P.O. BOX 7680
NEWPORT BEACH, CA 92660

EXAMINER

GURZO, PAUL M

ART UNIT

PAPER NUMBER

2881

DATE MAILED: 02/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/578,998

Applicant(s)

INOUE ET AL.

Examiner

Paul Gurzo

Art Unit

2881

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2,3 and 5-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2,3 and 5-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2,3, and 5-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adachi et al. (5,351,198).

Regarding claim 21, 198 teach quantitatively analyzing a plurality of components in a sample based on an absorption spectrum obtained by FTIR as well as calculating multi-component concentrations from a mixed gas spectrum using a quantitative algorithm (col. 2, lines 15-27). They also teach that when a plurality of ingredients are measured, which is viewed as a coexistent gas component, and analyzed, it is possible that the absorption spectra of a plurality of ingredients to be measured can be previously measured, and the measured absorption spectra can be memorized in, for example, a computer within an analyzer as reference spectra. In such a case, it is necessary to make a calibration matrix from the reference spectra within the computer each time that a plurality of ingredients of unknown concentrations in the sample to be measured are quantitatively determined (col. 4, line 66 - col. 5, line 9). The calibration matrix is viewed as a correction change due to an exhaust gas and a calibration gas because the calibration matrix from the reference spectra (calibration gas) within the computer is determined each time a plurality of ingredients of unknown concentrations (exhaust gas) in the sample to be measured are quantitatively determined. This will correct the influence of the plurality of ingredients of

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unknown concentrations (exhaust gas) in the sample to be measured. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a correction step because this will lead to enhanced measurement for quantitative determination.

Regarding claims 2-3, 198 teaches FTIR measurement of the sample as applied above, and teach the use of a memory portion (22) that acts as an external analyzer, such as a CPU. They teach correlation through the calibration matrix as applied above, and it is well known in the art that a method other than FTIR can be used.

Regarding claims 5-20, 198 teaches that ingredients of the exhaust gas are CO₂, CO, NO, and H₂O, and they teach that a general linear algebraic method can be used as means for determining the concentrations of the respective ingredients contained in the group of ingredients in the exhaust gas (col. 7, line 54 - col. 8, line 2).

Response to Arguments

Applicant's arguments filed 1/7/04 have been fully considered but they are not persuasive. Applicant argues that 198 fails to teach correcting for a change in the spectrum and that impermissible hindsight has been used.

Regarding the argument that 198 fails to teach correcting for a change in the spectrum, as this newly added claim is best understood, 198 teaches calculating multi-component concentrations (col. 2, lines 15-27). Further, the measured absorption spectra that is used as a reference spectra (col. 4, line 66 - col. 5, line 9) is viewed as a calibration gas. In addition, the plurality of unknown concentrations is viewed as the exhaust gas, which is measured in relation to the calibration gas to determine the quantitative composition and can be used as an influence correction.

Regarding the argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Gurzo whose telephone number is (571) 272-2472. The examiner can normally be reached on M-Fri. 7:30 - 6:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Lee can be reached at (571) 272-2477. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

PMG
January 29, 2004


JOHN R. LEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800